

IN BRIEF

Leonardo da Vinci May Have Had a Rare Eye Condition that Affected His Portraits

Other researchers have similarly claimed that other famous painters like Rembrandt and Edgar Degas had the same condition. This study, curiously, uses *Salvator Mundi* for analysis.



Zachary Small October 19, 2018



Anonymous portrait (once claimed to be a self-portrait) of Leonardo da Vinci, c. 1600. Uffizi, Florence (image via Wikimedia Commons)

New research into Leonardo da Vinci's paintings speculates that the famous Renaissance artist had a rare eye condition which likely facilitated his ability to render three-dimensional faces and objects with a distinct sense of depth-recession.

Dr. Christopher W. Tyler, a research professor at the City University of London and at the Smith-Kettlewell Eye Research Institute in San Francisco, recently published findings in the peer-reviewed medical journal *JAMA Ophthalmology* indicating that the artist had intermittent exotropia, a form of strabismus, based upon a scientific review of the artist's portraits and self-portraits.

Strabismus is a binocular vision disorder characterized by the partial or complete inability to maintain eye alignment on a fixed object. It is usually accompanied by suppression of the deviating eye and consequent two-dimensional monocular vision. Exotropia is a rare form of the disorder that typically manifests as an outward shift of the pupils within the eyelid aperture.

The breadth of Tyler's research analyzed the geometric angle of eye alignment in Leonardo's subjects. Based on six artworks (including two sculptures, two oil paintings, and two drawings), the researcher found evidence of skewed ocular angles consistent with signs of the rare eye condition.

Notably, one of the six works that Tyler considered was *Salvator Mundi*, the painting whose attribution to Leonardo da Vinci has been hotly contested even before it sold at Christie's' November 2017 auction for a record \$450.3 million. Based on an initial look at Tyler's research, it's hard to tell if the painting's inclusion here enhances attribution claims for art historians, or if it dilutes the researcher's data set. With so few artworks analyzed, one of questionable authorship certainly casts shade on any definitive conclusions about Leonardo's eyesight.

Oddly enough, this is not the first time exotropia has been in art news headlines. Over the past few centuries, scientists have claimed that other famous painters have had the same condition, including Rembrandt and Edgar Degas. How this condition affects the formal elements of the artists' paintings, though, is less clear. Dr. Michael Marmor has written several books on the eye conditions of great painters. He claims, for example, that Degas' failing vision in old age caused blurry sight, explaining the artist's shift in style from refined early brushstrokes to a coarser approach later in life. Tyler's research on Leonardo, by comparison, merely argues about a potential cause of the idiosyncratic facial geometries of his subjects.

Interest in objective analysis of famous painters has proliferated in the last four or five decades. These scientific studies are somewhat reminiscent of — albeit much more rigorous than — Sigmund Freud's famous 1910 essay psychoanalyzing Leonardo's paintings as a window into the artist's childhood.

Commentary

Daniel: It always strikes me as hilarious when scientists with no understanding of either iconography or the formal plastic elements of painting attempt to explain either of them in terms of medical conditions. Funny how, despite the fact that they are discussing an eye condition, they themselves have neglected to actually look at the artwork. Certainly, they didn't "see" it. The rendering of eyes pointing in slightly different directions has a long history in portraiture, and is used both in the creation of the viewer's experience of three dimensional space on a flat surface and psychological narratives about the subject. Leonardo was hardly the only painter using this device. It predates him by thousands of years, was employed by cultures around the globe, and has been continuously employed by painters from the very beginning of painting tens of thousands of years ago all the way through to Matisse, Picasso, DeKooning, etc. Peer reviewed or not, what is being presented is junk science based on little more than profound ignorance of painting's syntax and the scientists' selective blindness.

CWT: A response and a caution. In response, it seems that this correspondent neglected to look at the published analysis, which was entirely based on "actually look[ing] at the artworks". If Daniel wishes to address a scientific analysis, he needs to do so with specific examples of eye divergence in portraits of any era, let alone those predating Leonardo by "tens of thousands of years". Did the Lascaux/Chauvet cave paintings include portraits with a divergent eye condition? Peer review would readily weed out such statements. To perform the necessary analysis, the painting or sculpture has to be in close-to-frontal view with the pupils or irises well delineated in the eyelid apertures. Which works are available for rigorous analysis in this form?

The caution is that, since publication of the analysis, it has emerged that rather than just being cleaned, the 'Salvator Mundi' was extensively restored by the conservationist Diane Dwyer Modestini (*The Guardian*, Oct 14, 2018), revealing that the cleaned original had extensive damage to one eye, and making it impossible to determine the relative location of the pupils and irises (at least on the information available). The *Salvator Mundi* portrait must therefore be withdrawn from the analysis, which itself was presented as a cumulation of probabilities, not any form of hard proof of the interpretation of Leonardo's eye condition.